

09/471,689
YOR919990507US1
YOR.153

2

attached claims represent all of the amendments entered in the case and the amendments which were made in the first After Final Amendment and the Second After Final Amendment.

It is noted that the claim amendments herein are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims, or for any statutory requirements of patentability.

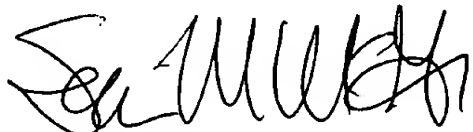
Further, it is noted that, notwithstanding any claim amendments made herein, Applicant's intent is to encompass equivalents of all claim elements, even if amended herein or later during prosecution.

FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-32, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiencies in fees or to credit any overpayment of fees to Assignee's Deposit Account No. 50-0510.

Respectfully submitted,



Sean M. McGinn
Registration No.: 34,386

Date:

9/2/03

McGinn & Gibb, PLLC
Intellectual Property Law
8321 Old Courthouse Road, Suite 200
Vienna, Virginia 22182-3817
(703) 761-4100
Customer No. 21254

APPENDIX

1. (Amended) A computer-implemented method of automatically generating a story, comprising:
 - selecting a theme of said story;
 - examining elements of said theme and instantiating said theme; and
 - using said theme to select and control other aspects of the story generation, including a plot of said story which employs knowledge-generated characteristics, relationships, and events.
2. (Original) The method according to claim 1, further comprising:
 - inputting said elements of said theme into a stage, said stage being a collection of elements of said story and their interrelationships; and
 - inputting the stage into a simulation engine to play out a series of events over time, thereby to generate a plot, said plot including characters, their characteristics, and their respective interactions, and a history of events and their temporal relationships, said simulation engine having a predetermined randomness such that random elements from said databases are selected;
3. (Original) The method according to claim 2, further comprising:
 - developing a scenario, including a plurality of activities, based on said plot generated, such that details of said activities are developed and bridged.
4. (Original) The method according to claim 3, wherein said scenarios are in a formal, logic-based language independent of a spoken language, said method further comprising:
 - inputting said scenarios into a natural language generator such that said scenarios are converted from said logic-based language to a natural language, said natural language being a spoken language understandable by a human reader, said conversion from said logic-based language to said natural language influencing at least one of story grammars, literary constraints, words, phrases, and sentence structure used in said scenario.

5. (Original) The method according to claim 4, further comprising:
generating a story based on an input from said language generator.
6. (Original) The method according to claim 3, further comprising:
generating a story based on an input from said language generator.
7. (Original) The method according to claim 6, further comprising:
selecting a story structure while said story is being generated such that a sequence of said story is selectively changeable.
8. (Original) The method according to claim 7, further comprising:
expanding said story according to said story structure selected.
9. (Original) The method according to claim 8, further comprising:
generating a story outline based on said story expansion.
10. (Amended) The method according to claim 1, further comprising:
generating a story based on an input from [said] a language generator.
11. (Original) The method according to claim 1, wherein a user selectively constrains said process at any of a plurality of predetermined steps of said process, such that said user may select a theme from a database of themes and a plot from a plot database, such that user can anchor the story to said choices made by the user.
12. (Original) The method according to claim 1, wherein said theme is selected from a plurality of themes stored in a database.
13. (Original) The method according to claim 1, wherein said theme is captured such that said theme influences other processes but are independent of said processes of the story generation.

14. (Original) The method according to claim 1, wherein said theme is captured and stored in a database in advance by forming a formal expression in a formal language using primitive elements provided in a thematic knowledge base.

15. (Amended) The method according to claim 1, further comprising:

identifying various classes of knowledge, a set of computational entities and their interactions for building creative agents for produce random, interesting artifacts in a particular language.

16.(Amended) The method according to claim 1, [wherein said identifying comprises] further comprising:

identifying various system components, their roles and interactions in an architecture for computational creativity.

17. (Amended) The method according to claim 1, [wherein said identifying] further comprising:

identifying a notion of thematic knowledge and its role in an architecture for computational creativity.

18. (Amended) The method according to claim 1, [wherein said identifying comprises] further comprising identifying a process of thematic instantiation and its role in an architecture for computational creativity.

19. (Amended) The method according to claim 1, [wherein said identifying comprises] further comprising:

identifying the role of class of knowledge in computational creativity called impressionistic knowledge.

20. (Amended) The method according to claim 1, [wherein said identifying comprises] further comprising:

identifying man-machine interfaces points for controlling a creative process executed by said system.

21. (Original) The method according to claim 1, wherein said story generation is theme-based such that said theme is selected first to constrain choices made in generating said story and to ensure that said story is about said theme.

22. (Original) The method according to claim 1, further comprising:
using literary devices in generating said story so as to influence a literary style of said story.

23. (Original) The method according to claim 22, wherein said literary devices include a choice of words and phrase used in conveying events of said story to convey a psychological consciousness of a character of said story.

24. (Original) The method according to claim 22, wherein said literary devices are keyed to said theme.

25. (Original) The method according to claim 1, further comprising:
providing a user interface points at predetermined positions of a sequence of said story generation, such that said user selectively provides an input to constrain an aspect of said story generation.

26. (Original) A method of automatic story generation, comprising:
selecting a theme from a theme database;
using said theme to make further selection of elements of a stage of said story, such that said theme constrains choices for the function of the elements of said stage of said story;
inputting the stage elements into a simulator, said stage elements being appropriately represented for said simulator;

09/471,689
YOR919990507US1
YOR.153

7

simulating, by said simulator, to generate a sequence of events of said story, each event of said sequence being performed by a selected character of said story, thereby to form a scenario of said story;

in parallel, selecting a story grammar for the story;

expanding said story to one of the paragraph level and the sentence level, depending upon the characteristics in said stage and the theme to influence the expansion of the story; and

linking the expansion of the story to the scenario and inputting each event into a natural language generator, to produce said story in a natural language.

27. (Original) The method according to claim 26, wherein said story grammar is linked to said theme.

28. (Original) The method according to claim 26, wherein said story grammar is selected by said user and randomly selected.

29. (Amended) A system for generating a story, comprising:

means for selecting a theme of said story;

means for examining elements of said theme and instantiating said theme; and

means for using said theme to select and control other aspects of the story generation, including a plot of said story which employs knowledge-generated characteristics, relationships, and events.

30. (Amended) A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of story generation, said method comprising:

selecting a theme of said story;

examining elements of said theme and instantiating said theme; and

using said theme to select and control other aspects of the story generation, including a plot of said story which employs knowledge-generated characteristics, relationships, and events.

31. (Original) A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of story generation, said method comprising:

selecting a theme from a theme database;

using said theme to make further selection of elements of a stage of said story, such that said theme constrains choices for the function of the elements of said stage of said story;

inputting the stage elements into a simulator, said stage elements being appropriately represented for said simulator;

simulating, by said simulator, to generate a sequence of events of said story, each event of said sequence being performed by a selected character of said story, thereby to form a scenario of said story;

in parallel, selecting a story grammar for the story;

expanding said story to one of the paragraph level and the sentence level, depending upon the characteristics in said stage and the theme to influence the expansion of the story; and

linking the expansion of the story to the scenario and inputting each event into a natural language generator, to produce said story in a natural language.

32. (Amended) A computer-implemented, theme-based method of creating a story, comprising:

[selecting a theme]

automatically generating, by a computer, a story based on a theme

wherein elements of the theme of the story are expounded upon in a simulation engine in the computer to further generate a plot of the story which employs knowledge-generated characteristics, relationships, and events.

(Use several sheets if necessary)

YO999-507

09/471,689

Bringsjord, et al.

December 23, 1999

2121

[illegible][illegible]

		Selmer Bringsjord and David Ferrucci, "Artificial Intelligence and Literary Creativity: Inside the Mind of BRUTUS, a Storytelling Machine", August 30, 1999
		Selmer Bringsjord, "Cinewrite: An Algorithm-Sketch for Writing Novels Cinematically, and Two Mysteries Therein", <u>Instructional Science</u> , 21:155-168, 1992

DATE CONSIDERED

Form PTO-A820
(also form PTO-1449)

Patent and Trademark Office * U.S. DEPARTMENT OF COMMERCE

OF

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

YO999-507

Application Number

09/471,689

Applicant(s)

Bringsjord, et al.

Filing Date

December 23, 1999

Group Art Unit

2121

*EXAMINER

INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Selmer Bringsjord, Paul Bello, and David Ferrucci, "Creativity, the Turing Test, and the (Better) Lovelace Test", Minds and Machines, 11:3-27, May 8, 2000

Selmer Bringsjord, "Is It Possible to Build Dramatically Compelling Interactive Digital Entertainment (in the form, e.g., of computer games)?" , Game Studies, February 16, 2001

Selmer Bringsjord, "What Robots Can and Can't Be", Dordrecht, the Netherlands: Kluwer, 1992, pp.163-188

Fred Charles, Steven J. Mead, and Marc Cavazza, "Character-Driven Story Generation in Interactive Storytelling", University of Teesside, Middlesbrough

Peter Clark, "Story Generation and Aviation Incident Representation: Working Note 14", The Boeing Company, January 26, 1999

Lyn Pemberton, "A Modular Approach to Story Generation", School of Cognitive and Computing Sciences

Margaret A. Boden, "Could a Robot Be Creative - And Would We Know?", in Ford, K.M., Glymour, C., and Hayes, P.J., eds., Android Epistemology, Cambridge, MA: MIT Press, pp. 51-72, 1995 (Abstract)

George Johnson, "Undiscovered Bach? No, a Computer Wrote It", The New York Times, November 11, 1997, pp. F1-2

Ray C. Dougherty, "Natural Language Computing: An English Generative Grammar in Prolog", Mahwah, NJ: Lawrence Erlbaum Associates, 1994 (Abstract)

Paul Bailey, "Searching for Storiness: Story-Generation from a Reader's Perspective", The University of Edinburgh, Division of Informatics

J. Yellowlees Douglas and Andrew Hargadon, "The Pleasures of Immersion and Engagement: Schemas, Scripts and the Fifth Business", Digital Creativity, 2001, Vol 12, No. 3, pp.153-166

Andrew Gartland-Jones, "Can a Genetic Algorithm Think Like a Composer?", 5th International Conference on Generative Art, December 11-13, 2002, Politecnico di Milano University, Milan, Italy

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.